

Listing of Claims

1. (Cancelled).
2. (Currently Amended) A magnetic material detection device according to claim [[1]] 1 comprising returning means for returning the magnet to an original position where the magnet is not displaced from a position where the magnet is displaced.
3. (Previously Presented) A magnetic material detection device according to claim 2 wherein the returning means is configured by a plate spring.
4. (Cancelled).
5. (Currently Amended) A magnetic material detection device according to claim [[1]] 1 wherein the configuration of the magnet is any one of a cube, a rectangular solid, a cylinder or a pipe.
6. (Currently Amended) A mobile object detection system comprising the magnetic material detection device according to claim [[1]] 2 and the mobile object comprising the magnetic material.
7. (Previously Presented) A magnetic material detection device comprising:
 - a magnet displaceable in the direction of magnetic poles; and
 - a Hall device for detecting displacement of the magnet, having an operating point whose magnetic state the Hall device outputs, characterised in that the magnet and the Hall device are disposed such that on/off state of the Hall device changes when the magnet is displaced such that the boundary line of the magnet's poles crosses the operating point, enabling to detect that the magnetic material is

displaced within the predetermined distance from the body of the magnetic material detection device; and

a supporting member for supporting the magnet and second magnet which is different from said magnet, whose one end is connected to the magnet and whose other end is connected to the second magnet, wherein the second magnet locates near a displacement path of the magnetic material.

8. (New) A magnetic material detection device for detecting minute displacement of a magnetic material comprising:

a magnet displaceable in the direction of magnetic poles; and

a Hall device having an operating point corresponding to a given magnetic force wherein the on/off state of the Hall device depends on the strength of the magnetic force at the operating point against the given magnetic force,

wherein the magnet and the Hall device are disposed such that when the magnetic material is displaced within the predetermined distance from the body of the magnetic material detection device so that the isomagnetic plane of the given magnetic force of the magnet pole crosses the operating point, the on/off state of the Hall device is reversed, by which the minute displacement of the magnet material is detected.

9. (New) A magnetic material detection device according to claim 8 comprising returning means for returning the magnet to an original position where the magnet is not displaced from a position where the magnet is displaced.

10. (New) A magnetic material detection device according to claim 9 wherein the returning means is configured by a plate spring.

11. (New) A magnetic material detection device according to claim 8 wherein the configuration of the magnet is any one of a cube, a rectangular solid, a cylinder or a pipe.

12. (New) A mobile object detection system comprising the magnetic material detection device according to claim 8 and the mobile object comprising the magnetic material.

13. (New) A magnetic material detection device for detecting minute displacement of a magnetic material comprising:

a magnet displaceable in the direction of magnetic poles; [[and]]

a Hall device having an operating point corresponding to a given magnetic force wherein the on/off state of the Hall device depends on the strength of the magnetic force at the operating point against the given magnetic force,

wherein the magnet and the Hall device are disposed such that when the magnetic material is displaced within the predetermined distance from the body of the magnetic material detection device so that the isomagnetic plane of the given magnetic force of the magnet pole crosses the operating point, the on/off state of the Hall device is reversed, by which the minute displacement of the magnet material is detected; and

a supporting member for supporting the magnet and second magnet which is different from said magnet, whose one end is connected to the magnet and whose other end is connected to the second magnet, wherein the second magnet locates near a displacement path of the magnetic material.